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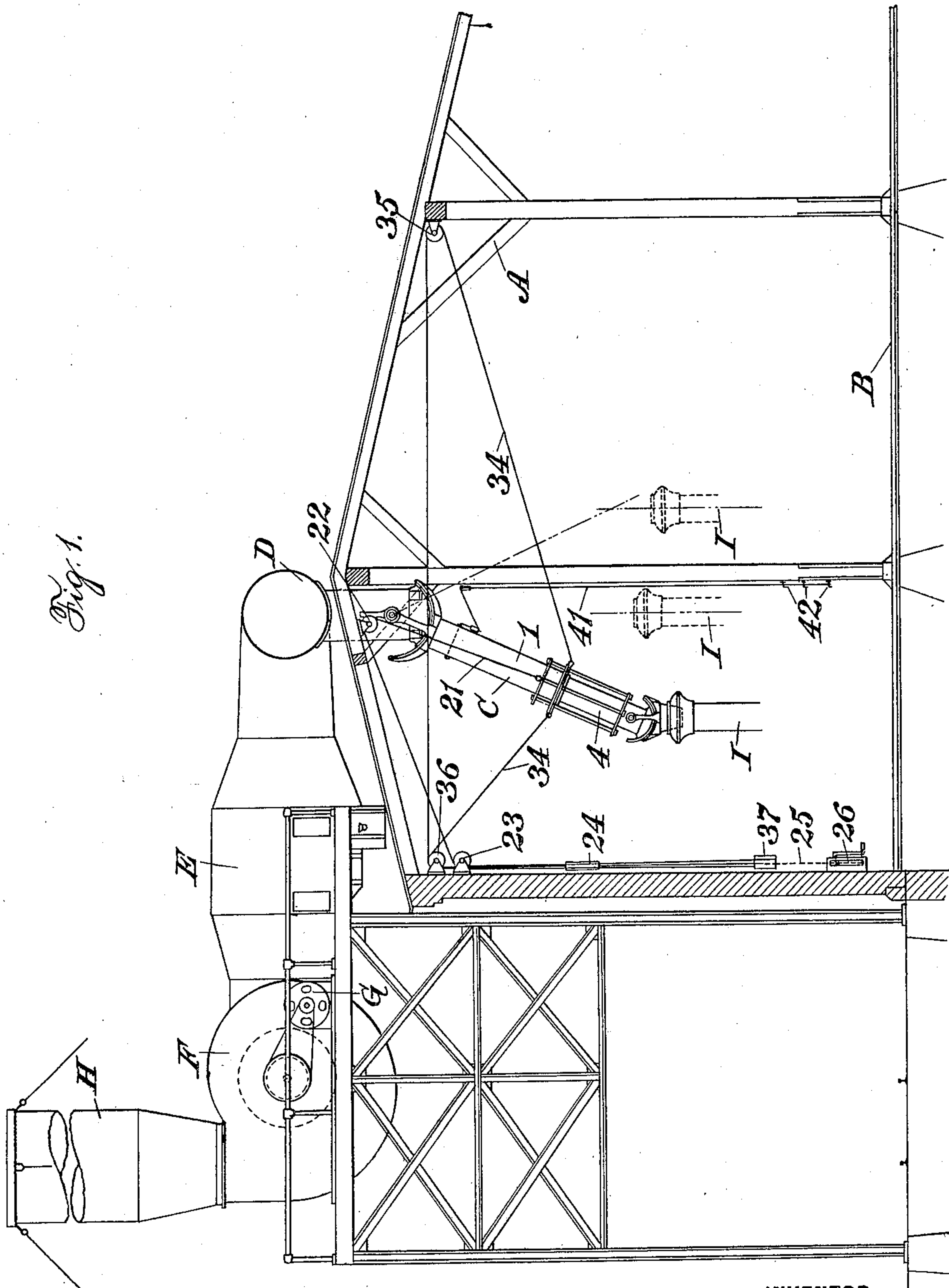
PATENTED MAY 12, 1908.

T. W. DEMAREST.

DRAFT APPARATUS FOR ROUNDHOUSES AND SIMILAR STRUCTURES.

APPLICATION FILED AUG. 21, 1907.

4 SHEETS—SHEET 1.



WITNESSES

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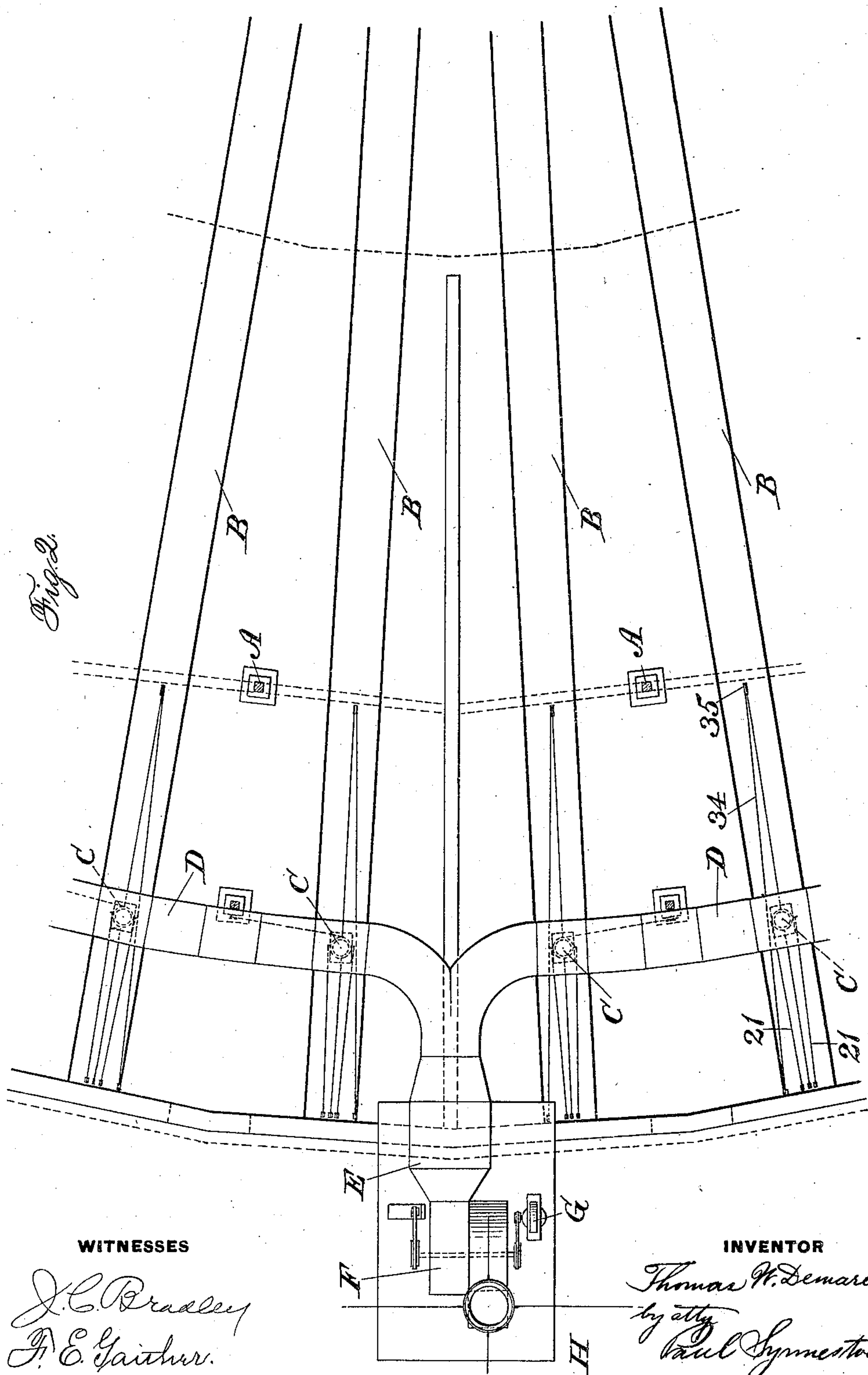
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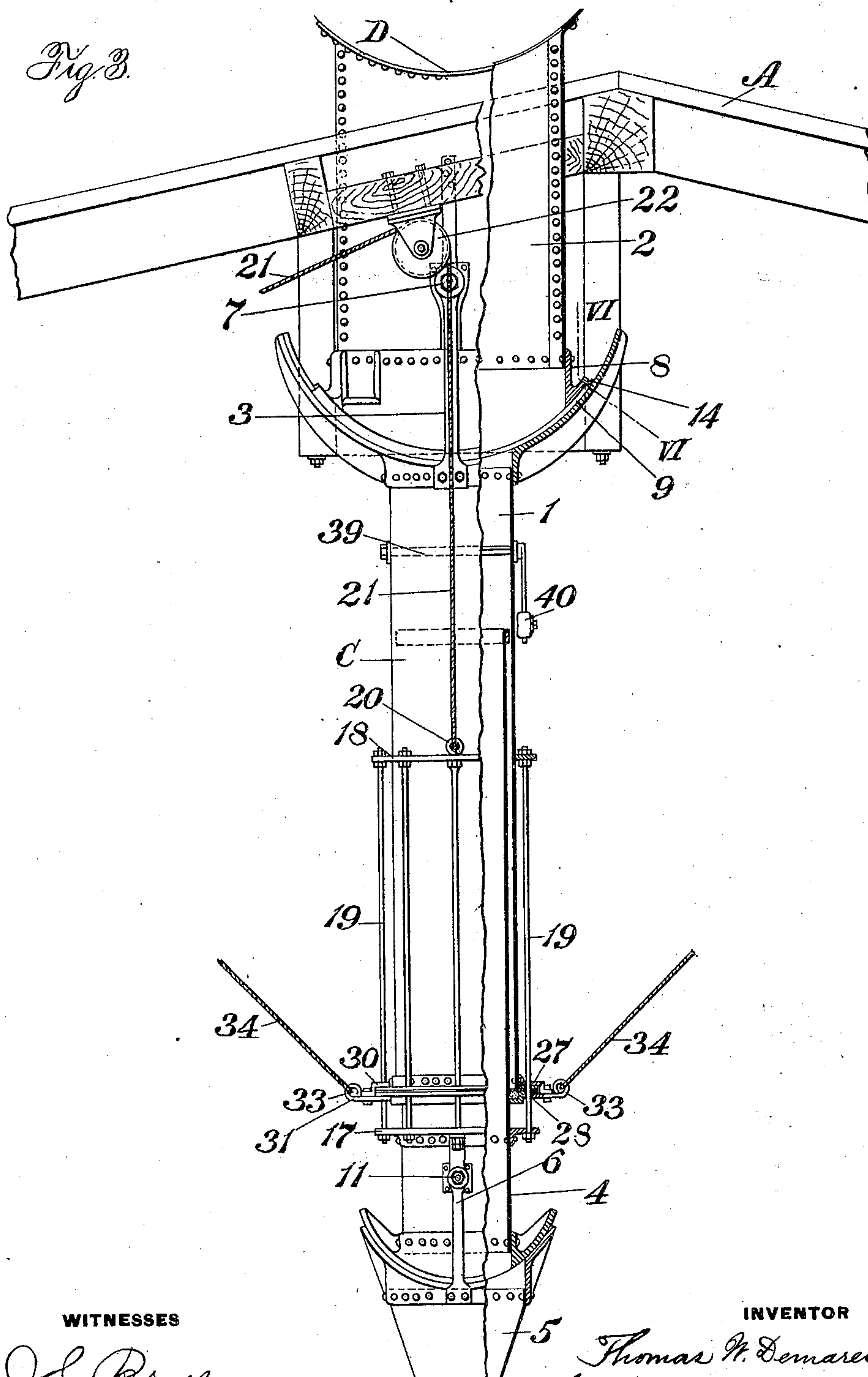
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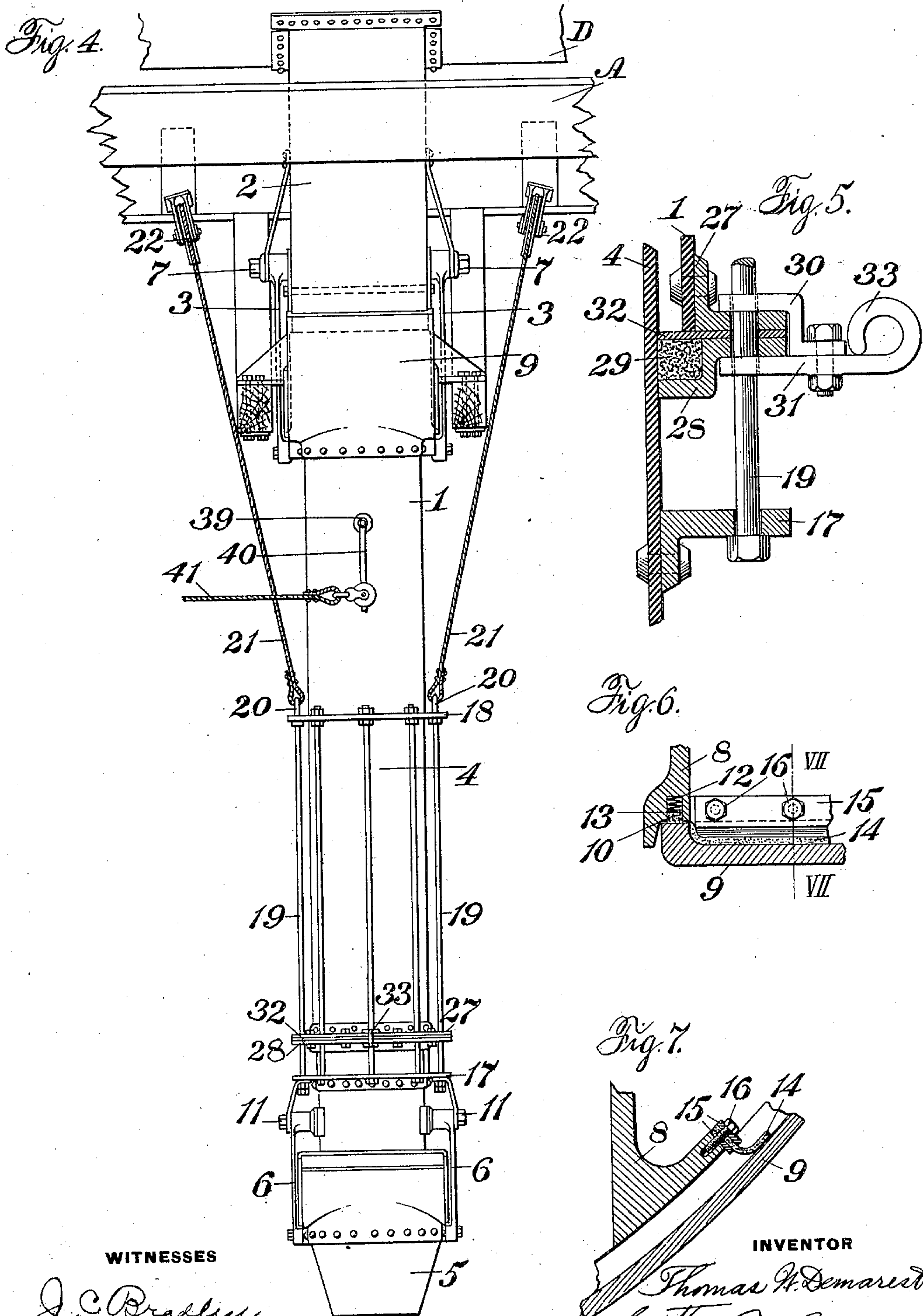
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4 SHEETS—SHEET 4.



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UNITED STATES PATENT OFFICE.

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DRAFT APPARATUS FOR ROUNDHOUSES AND SIMILAR STRUCTURES.

No. 887,073.

Specification of Letters Patent.

Patented May 12, 1908.

Application filed August 21, 1907. Serial No. 389,436.

To all whom it may concern:

Be it known that I, THOMAS W. DEMAREST, a citizen of the United States, residing at Fort Wayne, in the county of Allen and State of Indiana, have invented certain new and useful Improvements in Draft Apparatus for Roundhouses and Similar Structures, of which the following is a specification.

My invention relates primarily to apparatus for the removal of smoke, steam, products of combustion and the like from locomotives in roundhouses and similar structures, and the ventilation of such structures, and has for its principal objects: to provide an improved apparatus having positive means for carrying the products of combustion from the locomotives in the roundhouse and eliminating the smoke therefrom preliminary to discharge to the outer air; to provide an apparatus of the character described which will furnish the draft necessary to properly fire up the locomotive, thus obviating the use of wall blowers and other auxiliary draft creating means; to provide a compact draft apparatus operable from a central point, which will provide for effective removal of the products of combustion from any number of locomotives, and which will also serve as a ventilating means for the roundhouse; to provide a smoke jack which will fit locomotive stacks of varying diameters and heights and make tight joints therewith; to provide a smoke jack adapted to engage locomotives at varying longitudinal positions on the track beneath, and in which a longitudinal movement of the locomotive may occur without disengaging the stack from the jack. These and other objects are secured by my apparatus, one form of which is illustrated in the accompanying drawings, wherein

Figure 1 is a transverse section through a roundhouse, showing in side elevation my improved apparatus applied thereto;

Figure 2 is a partial plan view of the apparatus, the roof of the roundhouse being removed to more clearly indicate certain of the parts;

Figure 3 is a side elevation partially in section, of the smoke jack;

Figure 4 is a side elevation of the smoke jack, taken at right angles to the view of Figure 3;

Figure 5 is an enlarged transverse section through the sliding joint;

Figure 6 is an enlarged detail section on the line VI—VI of Figure 3, and

Figure 7 is a section through the end of the swinging joint, on the line VII—VII of Figure 6.

Heretofore the usual construction employed in roundhouses for removing smoke has been a jack comprising a chimney over each of the tracks, provided with a downward extension carrying a hood. The hood provides for a slight longitudinal movement of the locomotive beneath, but there is no tight connection between the stack and the hood, and as the height of stacks on various locomotives varies considerably there is often quite a space between the hood and the stack, permitting much of the smoke from the locomotive to escape into the roundhouse. This form of jack of course provides for practically no draft through the locomotive in firing up, and auxiliary wall blowers are employed for this purpose, and after steam is raised some of it is used to get draft. Steam blown off by the locomotive standing in the roundhouse ordinarily escapes directly, and is very objectionable, or in some instances special piping is installed for carrying this steam out of the building. The dense smoke discharged from the stacks is also very objectionable. My invention is designed to do away with all the objections above enumerated, by providing a draft system combined with a smoke washer, and means for tightly coupling the stacks of the locomotives to the draft system. This arrangement obviates the dense smoke in the vicinity of the engine house, and keeps the atmosphere of the house clear of smoke and steam, and does away with the necessity of auxiliary draft in firing up.

Briefly stated, my preferred apparatus comprises a draft creating means, a smoke washer, breeching leading thereto from a position over each of the tracks in the roundhouse, and longitudinally swinging smoke jacks depending over each track and so constructed that they may be adjusted longitudinally and vertically and will fit tightly all sizes of stacks. Referring first to the general arrangement of parts shown in Figures 1 and 2, A is the frame-work of the building into which the series of tracks B lead, C are the smoke jacks, one of which is suspended swingingly over each of the tracks as shown in Figure 1, D is the breeching for carrying the products of combustion from the smoke jacks, E is the smoke washer which may be of any improved type, but is preferably constructed as shown in my co-pending applica-

tion Serial No. 389,437, F is the fan or blower for producing the draft, which blower is operated from the motor G, H is the discharge stack from the blower, and I are locomotive

5 stacks of different heights and in different longitudinal positions, to any one of which the smoke jack may be applied.

The smoke jack is shown in detail in Figures 3 to 7 inclusive, to which attention is directed. The principal parts of the jack are

10 the outer tubular member 1 swingingly supported from the casing 2 by means of the side bars 3, the inner tubular member 4 telescoping inside of the tubular member 1, and the

15 conical end member 5 for fitting inside of the locomotive stacks, which member 5 is swingingly supported from the tubular member 4 by means of the side bars 6. The side bars 3 are supported upon the trunnions 7

20 which carry the entire weight of the jack, thus relieving the joint between the members 8 and 9 of undue pressure, and side bars 6 perform a similar function in supporting the member 5 on the trunnions 11. In order to

25 make the joint between the members 8 and 9 tight the packing means shown in Figures 6 and 7 is employed, the construction shown in Figure 6 being used at the sides of the joint parallel to the direction of the swing

30 of the jack, and the construction shown in Figure 7 being used at the end edges. As shown in Figure 6, the lower end of the member 8 is grooved, and the groove is provided with an asbestos packing 10, which packing

35 is held tightly against the edge of the member 9 by means of the springs 12, which springs bear against the interposed plate 13. As shown in Figure 7 the end of the joint is made tight by means of the asbestos strip 14 bearing against the member 9, the strip 14 being

40 secured to the member 8 by means of the strips 15 clamped to the edge of the member 8 by means of the studs 16. In order to support the tubular member 4 the ring 17 is riveted to such member, and this ring is sup-

45 ported from an upper guide ring 18 by means of the connecting rods 19, the ends of two of such rods 19 being provided with eyes 20 to which the counter-weight ropes 21 are se-

50 cured. As shown in Figure 1, these counter-weighted ropes extend up over pulleys 22, 23, and carry at their ends the counterweight 24. The rope 25 extends from the bottom of this counter-weight 24, to the reel mechanism 26, whereby the position of the telescoping member 4 may be adjusted to suit shifting conditions. In order to pack the telescoping joint between the members 1 and

60 4, the construction illustrated in detail in Figure 5 is provided. As here indicated two rings 27 and 28 are provided, the first of which is riveted to the lower edge of the member 1, while the other is recessed and is provided with asbestos packing 29. The two

65 rings 27 and 28 are secured together by

means of bolts and the clamping members 30 and 31, and the asbestos packing is prevented from working up between the tubular members 1 and 4 by means of the plate 32 interposed between the rings and having its

70 inner edge fitting comparatively close to the member 4. The engagement of the rods 19 with the rings 27 and 28 also provides a guiding means for the lower end of the tubular member 1. The ends of the clamping mem-

75 bers 31 are provided with eyes 33 for engaging the positioning ropes 34. As shown in Figure 1, these ropes 34 pass over the pulleys 35 and 36, and are provided with the counterweights 37. By this means the swinging of

80 the jack laterally is facilitated. Each of the smoke jacks is provided with a damper 39 normally held closed by means of the weighted lever 40, which lever is controlled by means of the cord 41 leading down to the se-

85 curing hooks 42. By this means the amount of draft may be regulated, and the jacks not in use may be entirely cut off.

The operation and utility of my device will be apparent from the foregoing. The

90 provision of the swinging jack permits of an adjustment longitudinally of the center line of the track to engage stacks at different positions upon the track, as shown in Figure 1, and the provision of the conical end 5 not

95 only provides for a tight fit with the end of the stack, but also enables the device to engage properly stacks of different sizes. The pivotal mounting of the conical end also provides for the vertical positioning of such end,

100 and consequently a tight fit, regardless of the angle at which the body of the jack may be inclined. The apparatus prevents the escape of any steam, gas, or smoke into the engine house, and the provision of the washer

105 E eliminates the smoke usually found in the vicinity of a roundhouse. It will also be apparent that the apparatus may be utilized to give any desired amount of draft to the engine, and that in firing up no auxiliary

110 draft means need be provided, all of which simplifies the operation of firing up and reduces the labor incident thereto. The supporting of the jack members independent of the joints is an important feature of con-

115 struction, as it provides for the removal of undue strain upon the joints, and such joints may be more easily kept tight, and are more durable than would otherwise be the case. It will also be noted that the telescoping

120 feature of the jack together with its swinging construction, permits of the engagement when the engine moves back and forth, so that the jack does not have to be removed when it is found desirable to give

125 the engine a slight movement. Other advantages and utilities will be apparent to those skilled in the art.

Having thus described my invention and illustrated its use, what I claim as new and

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desire to secure by Letters Patent, is the following:

1. In combination in a smoke jack, an upper supporting casing having a curved joint surface, a second lower tubular member having a curved joint surface adapted to cooperate with the other joint surface, pivot means at the center of curvature of the joint surfaces, and a pair of connecting rods mounted on opposite sides of the casing on such pivot means, and carrying at their lower ends the said lower tubular section.

2. In combination in a smoke jack, an upper casing member, a lower cooperating casing member pivotally connected to the upper casing member, curved surfaces at the end of one of the said members having the pivotal connection as their center of curvature, and packing means on the end of the other member for cooperating with the said curved surfaces and comprising sheets of asbestos having their edges bent to press resiliently against said curved surfaces.

3. In combination in a smoke jack, an upper casing member, a lower casing member telescoping inside the first member, a collar slidably mounted on the outside of the upper casing member, and means for connecting said collar to the lower casing member.

4. In combination in a smoke jack, an upper casing member, a lower casing member telescoping inside the first member, a collar slidably mounted on the outside of the upper casing member, a second collar secured to the lower casing member and a plurality of rods connecting the said collars.

5. In combination in a smoke jack, an upper casing member, a lower casing member telescoping inside the first member, a collar slidably mounted on the outside of the upper casing member, a stop collar secured to the lower end of the upper casing member,

and supporting rods extending from the first mentioned collar to the lower casing member.

6. In combination in a smoke jack, an upper casing member, a lower casing member telescoping inside the first member, a collar slidably mounted on the outside of the upper casing member, a stop collar secured to the lower end of the upper casing member, and means for supporting the lower casing member, comprising a plurality of rods slidably engaging the collar on the lower end of the upper casing member and secured to the first mentioned collar.

7. In combination in a smoke jack, an upper casing member, a lower casing member telescoping inside the first member, a collar slidably mounted on the outside of the upper casing member, means for connecting said collar to the lower casing member, and operating cables secured to the said collar.

8. In combination in a smoke jack, an upper casing member, a lower casing member telescoping inside the first member, a collar secured rigidly to the lower end of the upper casing member, a second collar secured rigidly to the lower end of the lower casing member, a third collar slidably mounted on the first casing member intermediate its ends, and connecting rods between the second and third collars.

9. In a smoke jack, the combination with a pair of telescoping casings 1 and 4, of means for making a tight joint comprising the opposing collars 27 and 28 secured to the edge of the member 1, the interposed plate 28 and the packing 29 between the plate and collar 28.

In testimony whereof I have hereunto signed my name in the presence of the subscribed witnesses.

THOMAS W. DEMAREST.

Witnesses:

JAMES C. BRADLEY,

F. E. GAITHER.